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Morphologic, immunophenotypic, and ultrastructural characterization of telocytes in pterygium

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Telocytes (TCs) are a novel and peculiar interstitial cell type already described in many tissues and organs. Their name derives from their typical extremely long, thin, tortuous, and overlapping processes called telopodes (Tps), forming a stromal three-dimensional network. TCs occupy a strategic position in relation to stem cell niches, blood capillaries, and nerve bundles, then contributing to maintain tissues homeostasis. However, TCs involvement in the pathophysiology of several disorders is being increasingly investigated because of their role as "connecting cells", mostly oriented to intercellular signalling. Previous study provided evidences for TCs involvement in neoangiogenesis (2), and we recently demonstrated their presence also in pterygium, a common degenerative and hyperplastic disorder of bulbar conjunctiva, characterized by an intense process of neovascularization. TCs and TPs were detected both in the subepithelial layer and in the connectival stroma of pterygium, especially in close relationship to the newly formed vessels. Since it is well established that TCs share the same ultrastructural features but display totally different morphology and immunophenotype based on their organ and tissue localization, the purpose of the study was to perform in pterygium a morphological and immunohistochemical analysis by light microscopy of thin and semithin sections and an ultrastructural study by transmission electron microscopy (TEM). The results will be discussed.

References

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Keywords

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